

REMARKS

Claims 1-28 are pending. Claims 8, 9, 12 and 14 have been amended to address informalities. Amendments have been made to independent Claims 1, 18, 23 and 26 to clarify the invention.

Claim Rejections – 35 U.S.C. § 102

Claims 1-8, 10, 11, 13-17 and 23-28 were rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by USPN 6,243,846 ("Schuster").

Schuster describes a system "for handling packet loss that may arise in the communication of data or real time media signals, ..." To handle packet loss, Schuster "generates and transmits into the network one or more forward error correction codes, or parity packets, ... a receiving end may extract lost payload from this redundant information ..." (Column 2, Lines 37-43)

As pointed out in Schuster, "because each packet, whether payload or parity, contains its own header, an increase in packet rate consequently increases the burden on network routers and could delay transmission time ..." (Column 4, Lines 19-23). To circumvent this problem, one technique taught by the present invention, involves the use of forward error correction tunnels ("FEC tunnels"). According to various embodiments, the use of FEC tunnels allows network administrators to implement error correction for particularly lossy paths, as opposed to the entire network between a client and server. In some embodiments, the ability to selectively implement error correction in particular areas of the network, allows more efficient use of network capacity.

Schuster does not teach or suggest the use of tunnels to implement forward error correction. The Examiner argues that Schuster's RTP protocol is a tunnel protocol. The Applicants respectfully disagree. RTP (Real-time Transport Protocol) is a standard packet format for delivering audio and video data. No tunnels are established between network nodes in the standard Real-time Transport Protocol. Furthermore, RTP does not establish any tunnel between an encoder and a decoder. Still furthermore, RTP does not establish any error correction tunnel between the encoder and the decoder.

Claims 23 and 26 were rejected under 35 U.S.C § 102(b) as being allegedly anticipated by USPN 6,079,042 ("Vaman"). Vaman, like Schuster, does not teach or suggest the use of FEC

tunnels. Vaman merely describes an error correction method for recovering lost cells in a ATM network. (Col 1, Lines 64-67)

The Applicants believe Claim 1 is now allowable. Therefore, all claims dependent on Claim 1 are allowable as well.

Claim Rejections – 35 USC § 103

The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Schuster. Since Schuster, as mentioned above, does not teach or suggest the use of tunnels to implement error correction, the prior art reference does not teach or suggest all claim limitations, and is therefore, insufficient to support a §103 (a) rejection.

The Examiner rejected Claims 18-22 under 35 U.S.C § 103(a) as being allegedly unpatentable over Schuster in view of USPN 6,895,019 (“Gibson”). Since neither Gibson nor Schuster teach or suggest the use of tunnels to implement error correction, the prior art references does not teach or suggest all claim limitations. Therefore, the Applicants believe independent Claim 18 as amended is sufficient to overcome the § 103(a) rejection

The Examiner also rejected Claims 1-8, 10, 11, 13-17, 24, 25, 27 and 28 under 35 U.S.C 103(a) as being unpatentable over USPN 6,079,042 (“Vaman”) in view of USPN 5,642,365 (“Murakami”). The Examiner contends that the present invention made obvious modifications to Vaman’s encoding techniques because Murakami teaches “avoiding unnecessary delay of ATM cell.”¹

The Applicants respectfully disagree. Vaman describes a method for “recovering lost cells whereby the ATM adaptation layer is capable of selectively implementing an error recovery scheme if required.” (Column 1, Lines 64-67) Murakami describes an apparatus “which can maintain an effective error correcting ability for both random describe errors and burst errors caused by cell loss, symbol loss or symbol change.” (Column 2, Lines 14-16) However, neither Vaman nor Murakami teach or suggest error correction mechanisms for packet networks. Both Vaman and Murakami teach error correction techniques for an ATM cell network, which is fundamentally distinct from a packet network like the Internet. Specifically, a packet network cannot receive data generated from an ATM network or vice versa because fundamental networking protocols are different. Additionally, neither Vaman nor Murakami teach or suggest the use of error correction tunnels or even tunnels between an encoder and a decoder.

¹ Office Action ¶ 7

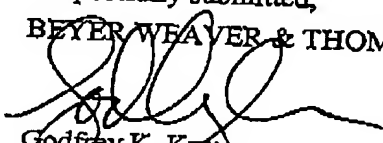
Therefore, the Applicants believe that the prior art does not teach or suggest all limitations of independent claims.

The Examiner also rejected Claims 18-22 under 35 U.S.C. § 103(a) as being unpatentable over Vaman in view of an Official Notice that "using a timer to detect lost packets was well known and conventional at the time the invention was made." The Examiner further argues that it would have been obvious to a person ordinarily skilled in the art at the time the invention was made to implement Vaman's lost packet determination by means of a timer. As mentioned above, Vaman does not teach or suggest error correction for packet networks. Vaman also does not teach or suggest the use of FEC tunnels. Although it is acknowledged that error correction is a widely used technique, the Applicants respectfully believe that it is novel and nonobvious to use error correction in the context of error correction tunnels between an encoder and a decoder in the manner noted in the claims. Therefore, the Applicants believe that independent Claim 18, as amended, is sufficient to overcome the §103(a) rejection. Independent claims 23 and 26 have also been amended to include the language "error correction tunnels" and are believed to be allowable.

In fact, none of the references cited by the Examiner are believed to sufficiently teach or suggest error correction tunnels or error correction tunnels established between an encoder and a decoder as recited by independent claims 1, 18, 23, and 26.

In light of the above remarks and claim amendments, the Applicants believe that all pending claims are allowable in their present form. Please feel free to contact the undersigned at the number provided below if there are any questions, concerns, or remaining issues.

Respectfully submitted,
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